In the Claims:

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Claim 1 (currently amended). An optical transmitter for generating a digital optical signal sequence, comprising:

a plurality of independently drivable light transmitters, said light transmitters generating respective optical signals for respective bits of a digital electrical signal sequence, said respective optical signals being combined and superposed into an optical signal path; and

a control device distributing the bits between said light transmitters, said bits being distributed such that before a HIGH state output, a respective light transmitter is in a LOW state.

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Claim 2 (original). The transmitter according to claim 1, wherein said light transmitters generate said respective optical signals in a temporally staggered manner.

Claim 3 (original). The transmitter according to claim 2, wherein the bits of the digital electrical signal sequence are alternately applied to said light transmitters by said control device in a fixed temporal order.

Claim 4 (original). The transmitter according to claim 1, wherein said control device distributes between said light

transmitters a number of bits of the digital electrical signal sequence which corresponds to a number of said light transmitters, and said light transmitters simultaneously generate said respective optical signals.

Claim 5 (original). The transmitter according to claim 4, wherein said respective optical signals are combined and superposed in said optical signal path in a temporally staggered manner.

Claim 6 (original). The transmitter according to claim 5, wherein said optical signal path has a respective different length for each of said respective optical signals, said respective different length corresponding in each case to a length of one bit effecting a temporally staggered superposition of said respective optical signals.

Claim 7 (original). The transmitter according to claim 4, wherein said respective optical signals are combined and superposed in the optical signal path in a non-temporally staggered manner.

Claim 8 (original). The transmitter according to claim 1, wherein each of said light transmitters generates a pulse for a bit of the digital signal sequence, said bit being assigned by the control device.

Claim 9 (original). The transmitter according to claim 1, wherein said light transmitters are disposed at a short distance from one another on a semiconductor chip.

Claim 10 (original). The transmitter according to claim 1, further comprising a single waveguide disposed directly downstream of said light transmitters, said optical waveguide receiving said respective optical signals emitted by said light transmitters.

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Claim 11 (original). The transmitter according to claim 1, wherein said light transmitters is assigned to respective optical waveguides receiving said respective optical signals emitted, each of said respective optical waveguides being combined to form said single waveguide.

Claim 12 (original). The transmitter according to claim 10, wherein said respective optical signals from said light transmitters are coupled into the optical waveguide via a coupling optical configuration.

Claim 13 (original). The transmitter according to claim 1, wherein an even number of light transmitters are provided.

Claim 14 (original). The transmitter according to claim 1, wherein four light transmitters are provided.

Claim 15 (original). The transmitter according to claim 1, wherein said light transmitters are EEL or VCSEL laser diodes disposed as an array.

Claim 16 (currently amended). A method for generating a digital optical signal sequence, in which a digital electrical signal sequence is converted into a digital optical signal sequence, which comprises the steps:

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distributing bits of an electrical signal sequence between light transmitters generating a respective optical signal for each bit of the bits~~,~~ such that before a HIGH state output, a respective light transmitter is in a LOW state; and

combining and superposing each of the respective optical signal generated by the light transmitters in an optical signal path.

Claim 17 (original). The method according to claim 16, wherein the step of generating the respective optical signal for each bit of the bits is performed in a temporally staggered manner.

Claim 18 (original). The method according to claim 17, wherein the step of generating the respective optical signal for each bit of the bits is performed in that the respective light transmitters generate the respective optical signal alternately and in a fixed order.

Claim 19 (original). The method according to claim 16, wherein the step of generating the respective optical signal for each bit of the bits is performed in that the light transmitters simultaneously generate the respective optical signal after a respective bit of the electrical signal sequence has been obtained.

Claim 20 (original). The method according to claim 19, wherein the step of combining and superposing the respective optical signals generated by the light transmitters into an optical signal path is performed in a temporally staggered manner by use of respective signal paths of different lengths.

Claim 21 (original). The method according to claim 20, further comprising the step of coupling the respective optical signal of each of the light transmitters are into an optical waveguide having a different length before combining and superposing the optical signals generated.

Claim 22 (original). The method according to claim 19, wherein the step of combining and superposing the respective optical signal generated by the light transmitters into an optical signal path is performed in a non-temporally staggered manner.

Claim 23 (original). The method according to claim 16, wherein the respective optical signal emitted by one of the light transmitters is a light pulse.

Enter The Following New Claims:

Claim 24 (new). The transmitter according to claim 1, wherein said control device distributes said bits such that before a HIGH state output, the respective light transmitter is in a LOW state for three bit periods.

Claim 25 (new). The transmitter according to claim 1, wherein said light transmitters generate a respective optical signal for a respective bit of a digital electrical signal sequence with a length not greater than the length of the corresponding bit.

Claim 26 (new). The method according to claim 16, wherein the step of distributing the bits of the electrical signal sequence is performed such that before a HIGH state output,

the respective light transmitter is in a LOW state for three bit periods.

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Claim 27 (new). The method according to claim 16, wherein the sep of generating a respective optical signal for a respective bit is performed such that the optical signal produced has a length not greater than the length of the corresponding bit.